

In the Claims:

1. (Currently amended) A method of treating multiple sclerosis, the method comprising administering to a subject in need thereof a therapeutically effective amount of a compound, wherein said compound is N-acetyl cysteine amide (compound J) or N-acetyl cysteine ethyl ester (compound A) said compound having: (a) a combination of molecular weight and membrane miscibility properties for permitting said compound to cross the blood brain barrier of the organism; (b) a readily oxidizable chemical group for exerting antioxidation properties; and (c) a chemical make up for permitting said compound or its intracellular derivative to accumulate within the cytoplasm of cells.
2. (Currently Amended) The method of claim 1, wherein said compound is N-acetyl cysteine amide (compound J) or an ester pro drug thereof.

3-6. (Canceled)

7. (Currently Amended) A method for treating multiple sclerosis in an individual in need thereof, the method comprising administering to the individual a therapeutically effective amount of N-acetyl cysteine amide (compound J) or an ester pro drug thereof N-acetyl cysteine ethyl ester (compound A).

8.-9. (Canceled)

10. (Currently Amended) The method of claim 7, wherein said individual is administered a therapeutically effective amount of N-acetyl cysteine amide (compound J) pro drug comprises an ester moiety which is removable by hydrolysis imposed by intracellular esterases.

11.-19. (Canceled)